(e) J Taylor

A
Short Essay
ON THE
NATURE AND CAUSE
OF
INFLUENZA;
IN WHICH
THE IMPORTANT QUESTION IS DISCUSSED,
WHETHER THE
Influenza is Contagious or Not?
WITH
ANSWERS TO THE QUESTIONS OF DR. BEDDOES,
PROPOSED IN
His Circular Letters to the different Medical Practitioners.

TO WHICH IS ADDED,
OBSERVATIONS ON THE CAUSE
OF THE
LONDON PLAGUE, IN 1665.
TOGETHER WITH
A HINT FOR STOPPING THE RAVAGES
OF THE
YELLOW FEVER,
In the West-Indies.

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PREFACE.

THE following few observations on the Influenza are not published with an intention to support a contending party, but for the purpose of advancing science, as far as my humble abilities may allow; they were first written with the view of self-information, by collecting the chief points of enquiry into one compass, and afterwards answering them, thus framing in my own mind some judgment of the nature of the disease. At the end of this little Essay I have subjoined some observations on the cause of the London Plague, in 1665, *which I was naturally led into by explaining the cause of Influenza; this, therefore, will not be found so foreign* *to the subject as at first view might appear, especially as it serves to illustrate the main argument, viz. the operation of the seasons on our constitution, which branch of the medical art seems not to have been paid that attention to which its importance demands. If this department was studied more, I think it would throw much light on the cause and specific nature of many of our epidemics, and thus we should be able to prognosticate before hand what diseases would be most likely to happen, as well as to counteract their effects. I did not immediately avail myself of the writings of my predecessors,* who have professedly treated on the subject of Influenza, as it has occurred in former years. But I find upon perusing them, that their works will corroborate what I have advanced, and I flatter myself that the present explanation I have attempted of its nature and cause will not prove entirely unsatisfactory.*

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* Broughton, Falconer, Hamilton, &c.

A

SHORT ESSAY

ON THE

Nature and Cause of Influenza.

Dr. Beddoes's Questions answered.

I. ARE you able to judge from your own observations whether the Influenza is contagious or otherwise?

Yes.

II. What was the nature of the observations that fixed your opinion?

Simply this; the plurality of cases discovered the type of the attendant fever to approach for the most part to a typhoid nature.

III. On comparing a number of cases, do you think the Influenza distinguishable from a common catarrh?

Yes; the debility is greater, and almost universally continues longer; it likewise seemed to threaten a degree of relapse.

IV. In single instances, did not the symptoms so much resemble those of common catarrh as to render you doubtful whether they belonged to that or to the Influenza?

On the first view they did, but upon further examination the specific nature of the disease was sufficiently clear, the difficulty arises chiefly from variety of constitution, and more or less of the sthenic diathesis prevailing.

V. On various occasions was there not greater and more sudden depression than is almost ever seen in common catarrh; and did not the disorder appear at various times in almost all the gradations from pneumonia to low fever?

To the former part of your query, I answer in the affirmative; and in reply to the latter, there were sometimes approximations to pneumonia, but much more commonly the reverse, add to which, whenever variety of constitution presented an appearance of this sort, it very seldom required the antiphlogistic treatment in its *fullest extent* to remove it.

VI. On what day did you see the first case of well marked Influenza? and on what day the last?

Most of the catarrhal affections of this winter have been of that nature as not to yield readily to the mode of treatment used in the cure of common catarrh. I had a case, accompanied with much early debility and tendency to delirium, that occurred as far back as the 6th Oct. last. The patient was rather a tall man, naturally of a thin habit of body, and about forty; the discharge from the nose and fauces was very great, with the eyes watery and inflamed, pain in the head and chest, great weakness, rest disturbed, teasing cough, expectoration thin, thirst, but not excessive, chills, succeeded by weakening sweats, pulse quick and weak. He first took a gentle dose of Infus. Sennæ, and after its operation the volatile saline every three hours, drinking water occasionally with dry toast in it, remaining up as much as possible, in air of a moderate temperature, which method was continued about three days without much relief. I therefore recommended the toast and water to be omitted, and wine whey substituted in its stead; this soon had the desired effect, the pain in his head abated, he took notice of a soreness all over him, his expectoration was somewhat thicker, the pain in his chest less, and he slept better, but his cough was still troublesome: he continued this method for a day or two longer, but still remaining weak, with cough and some pain in the chest, he took the following

R. Tinct. Cinchon. drach. 2
Aq. Distil. drach. 10
Syr. Papav. erratic. drach. 1
Acid. Vitriol. dilut. q. s. ft. Haustus bis die sumendus;

which, with diet of a cordial, nourishing kind, drinking porter at meals, &c. soon brought him about.

His wife next fell ill of the same complaint, had great debility, and was delirious. She began to take medicines 22d Oct. and left off by 30th; they have had no return of their complaint, and are both in perfect health.

On the 12th March, first person, after the complaint began to be a little general, was of a delicate constitution, felt uncomfortable several days before it made its appearance in an unequivocal manner, and had taken a dose of opening medicine. At length came on pain in the head, loss of appetite, chills alternating with heats and sweats affording no relief, pulse somewhat quick and weak, no discharge from the nostrils as yet. The volatile saline draughts were administered every four hours, drinking barley water occasionally. 13. Very little rest last night, pulse quicker, pain in the head rather worse; continued the same medicine. 14. Sweated very much in the night, pain in the head a little better, slight discharge from the nostrils appeared, which increased in the course of the day, with some thin expectoration; a gentle dose of Infus. Sennæ was given this morning, and operated about 8 or 9 in the evening, when she was easier in her head, but very weak and fainty; she took a little rum and water, and went to bed. 15. She rested much better last night, and was almost entirely free from pain in her head, weakness and cough now troubled her most, with loss of appetite, and some pain in the chest; she continued the volatile saline three times a day, with a little spirit diluted, occasionally, when low, till the 18th, then took the Tinct. Cinchon. and Acid. Vitriol. for a few days, with cordial diet, and soon recovered.

And as to the last day, I have now at this time of writing (6th April) another addition to the catalogue of sufferers from the Influenza. This person said he had a complaint in his chest last Sept. from which he never properly recovered—it had been much aggravated about the time the Influenza first appeared; the antiphlogistic treatment had been followed for the last nine or ten days, making use of nothing stronger than barley water for common drink, but without any relief, as he was getting weaker, and obliged to take to his bed greatest part of the day. His symptoms were pain in the head, chest, and left side, increased upon inspiration or walking up stairs, troublesome cough, pulse 112 weak, strength much impaired, great lowness, somewhat thirsty at times, subject to chills when from the fire, yet so liable to sweats that he could bear but very little heat, urine changeable; he has had a discharge from the nostrils for two or three days, when his head seemed something better, and a trifling thin expectoration; is rather a tall man, and thin, about 37. I used the following

R. Aq. Ammon. Acet. Unc. 2 ſs.
Sp. Cinnamom. Unc. 1
Sp. Lavendul. Comp. drach. 1
Aq. Distil. Unc. v cap. Cochl. 3 tertiis horis:

he continues it through the night if awake, and for the cough,

R. Tinct. Opii Camph. Unc. 1.
Cap. gutt. XL ex Aq. Pur. urgente Tussi:

he is allowed porter to drink, with whatever his appetite fancies most, and occasionally wine and water when low; he gains strength daily, pulse reduced to 72 and stronger, appetite better, cough less, lost all pains excepting in his side, which is much less also.*

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* This person, though improving by this treatment, did not do without the assistance of the Pulv. Cichon. fl. a dr. and half of which was *added to the mixture*, with the Tinct. Opii Camph. thrice a day; since this he has *entirely lost all* his pains, nothing but mere debility remaining, which he is getting the better of hourly.

The face of the complaint is somewhat altered since its first appearance, as it attacks various parts of the body, nevertheless the discharge from the nostrils appears in some degree earlier or later in the disease, and terminates with more or less of cough and debility, and sometimes pain in the chest. As it is still very far from being extinct, notwithstanding we have had mild weather, it leads me to take the liberty of noticing Dr. B.'s following observation, viz. " Should these mild days stop the Influenza, no conclusion will follow respecting the present question."— From this I beg leave to differ, as I think *it is* a conclusion which serves to prove in some measure that the disorder is of an infectious nature, for we do generally believe that *common colds* are usually put a stop to by warm weather coming on.*

With respect to the notion of an *occult quality*

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* Since the atmosphere has been rendered cooler by the late rain, we have had very few instances of Influenza.

present in the atmosphere capable of immediately inducing the Influenza, the opinion is still very generally maintained, even by those who deny the infectious nature of the disease, from which we may infer, that there is contagion in the air. Now I would ask whether the infection of Influenza was brought in the air from any place, and did thus produce the disease among us? This also has hitherto generally been believed to be the case—but, however, it does not satisfy me, nor will it explain in what manner the disease is *formed first of all,* in the very beginning.—I therefore take contagious air as originally producing Influenza among us to be erroneous; indeed if this were really true (by parity of reasoning) we should then be visited much oftener by the plague, and this extremely contagious complaint (the plague) would then be traced to that source, where it rages so frequently, as having been brought over vast tracts of sea and land in that manner of infection; but this will not be found agreeable to fact, neither will it explain how *that* *disease likewise is first formed,* if we attentively peruse the works of authors on the Plague, and take all the circumstances together *collectively,* we cannot fairly deduce such an inference; we shall there find its *original* cause *with us,* must be from the effect of some long continued, peculiar, and uncommon state of the weather for some months before, bringing on a particular *diathesis* of the body, in which the system receives a heavy shock from a sudden alteration in the weather taking place. In order to be successful in our practice, we must keep our attention constantly fixed on the preceding seasons for some time past, as well as take into consideration the particular constitution of the patient; this is the great rule which draws the line between the rational physician and the empiric, and is particularly inculcated by our most eminent professors. Considering, then, that the contaminated air brought to us from places where the Influenza raged, is not the *original* cause that *first* produced it, but that some peculiar preceding seasons must have occasioned it; we are next to enquire how this is brought about, and also whether the complaint is of an infectious nature, which leads me to observe the particular kind of weather we have had for some time past, this will develop the whole mystery, and serve to explain the phenomena of Influenza as differing essentially from common catarrh. This may be considered as the great general cause which produced the present epidemic, as we cannot suppose that any material and general alteration in the mode of living, or other change in the rest of the non-naturals has taken place among us lately, more than at other times. Our winter has been unusually *mild* and *moist*, with *very little dry frost;* the effect of such sort of weather on the *diathesis* (which is constantly changing) must be, at least to prevent its being of the *stenic* order, if it does not absolutely introduce the *asthenic* diathesis, more or less, according to the different variety of constitution operated upon, and the favourable or unfavourable effect of the rest of the non-naturals, which state of body, however, we are to suppose was already introduced in a measure by the summer, and continued to be kept up by the uncommonly mild weather of this last winter. At length a degree of frost came on, which indeed we had experienced slightly before, but now it was accompanied with *a keen piercing wind.* In the general habit of body before mentioned, what are we to expect from this great and sudden alteration of the weather? surely not *highly* inflammatory complaints, for these are constantly observed to be much more prevalent when we have had a long continuation of dry frosty weather, of course we must acknowledge that *colds* and *fevers* coming on at this time, must recede from the *inflammatory*, and approach to the *typhoid type*, and consequently be more or less of an *infectious nature.* This winter we have had, comparatively speaking, very few instances of pure inflammatory fever—the fevers that mostly prevailed were of a nervous or putrid tendency. Catarrh is one of the mildest forms of fever with topical affection, this arises from the peculiar make of those parts, which naturally form an outlet to the perspirable matter when determined to them. In this disease nature endeavours to throw off the perspirable matter, which is determined to the mucous membrane of the nose, fauces, &c. from time to time, till the vascular system regains its due tone, and in this manner restores health; such is the progress of *common catarrh*, as it attacks the body in a healthy state, nature in this case, if not interrupted, slowly working her own cure; art, however, will hasten the cure, as a cathartic exhibited immediately upon perceiving the complaint speedily removes it. If the operations of nature are obstructed, as by fresh cold, or repulsion by local application to the external parts, the perspirable matter then flies to the lungs or head. A person having the symptoms of *common catarrh* just come on, with his eyes much affected, applied rose water to them, and to his nostrils, which very quickly reduced the inflammation of those parts, leaving him apparently well; but this truce was not to last long, for the perspirable matter being determined to the lungs, he was seized with a violent pain in his chest, which extended up both sides of the neck to the head, with great difficulty of breathing and fever; these alarming symptoms as suddenly disappeared upon the operation of a cathartic, which he had taken immediately upon the aggravation of the complaint. The perfection of nosology consists in bringing together in one view our diseases, arranged in such a manner as to point out readily both their nature and cure; this will be a work of time, and we shall surmount the difficulty only step by step. Cullen very justly made two species of catarrh, but then it should not have been placed in his fifth order *Profluvia;* for, as the ingenious Dr. TOWNSEND observes, it evidently belongs to the *Phlegmasiæ.* I would also make this further alteration in the division of the species, viz. *Sp.* 1, *Catarrhus Activus; Sp.* 2, *Catarrhus Passivus* instead of *Sp.* 1, *Catarrhus, a frigore; Sp.* 2, *Catarrhus a contagio,* as in Cullen's Nosology; by this division of the species we shall approach perhaps to more correctness, for the *Catarrhus a Contagio* (Influenza,) or, as I have called it, *Catarrhus Passivus* may happen when the disease does not reign epidemically, two instances of which I have adduced as occurring in October last. The Influenza may likewise happen a frigore *vel* a contagio; Cullen's division, therefore, seems objectionable. As I have hinted above, the *Catarrhus Activus,* if repulsed, will occasion other active inflammation, or else Synocha; so the *Catarrhus Passivus*, when repulsed, will induce other passive inflammation, or otherwise genuine *typhus*. These two diseases, then, do depend upon different constitutions, or rather more properly on different habits of the body.—Nature is ever various, so we find the disease sometimes occurs in such a shape as not to be strictly classed with either division; this variety, as I have before observed, depending on the peculiar constitution, and the particular *diathesis* acquired from certain combinations of the non-naturals; these divisions lay the foundation for a distinction in practice, and I have accordingly found that the antiphlogistic plan persisted in too rigorously in the Influenza, did not meet with that success its apparent propriety seemed to have ensured,—nay more, I shrewdly suspect, that the catarrhal fever which lately prevailed in France, owed much of its mortality to their fondness for the lancet.

Though common catarrh is in general a slight complaint, yet we know it may sometimes, if neglected or badly managed, immediately induce diseases of a more serious nature, or otherwise lay their future foundation; this last observation holds good in a more eminent degree, with respect to the epidemic catarrh or Influenza, as it must be considered a more dangerous complaint, and as when it happens it is much more general (from the two causes already mentioned; 1, the seasons which produce it—2, its contagious nature when produced) so it requires us to take every possible step to counteract its effects. The nature of the complaint being thus ascertained, we shall next proceed to recommend a preventive: this consists in observing particular cleanliness, avoiding as much as possible communication with the sick, keeping a watchful attention upon the state of the bowels, to obviate costiveness by means of gentle aperient medicines, using proper exercise, and to shun the extremes of heat and cold; weakly constitutions should add to this a more generous diet. If, notwithstanding these precautions, the complaint increases, I would advise an early application to the profession, lest by its protracted course it should spread its various evils.

ON
THE CAUSE
OF THE
LONDON PLAGUE, 1665.

ALTHOUGH it is not for us to scan the ways of Him who is Alpha and Omega, and who may have designed the Plague as a scourge for our transgressions, yet we shall find that this terrific disorder was not brought about by any supernatural means, but that on the contrary, it was a result of the regular and established laws of nature.

The cause that produced the great London Plague, in 1665, is to be sought for in the weather; and it is a singular fact, that the *kind of weather* which brought it on, was the *very reverse* of that which produced the Influenza.

Sydenham says* "the *preceding winter* having been *extremely cold*, and accompanied with *a continued frost* till *spring*, which went off *suddenly* towards the *end of March*, in the beginning of the year 1665, there then arose peripneumonies, pleurisies, quinsies, and other inflammatory disorders, which quickly made great devastation; and with these there also appeared *a continued epidemic fever*, of a *very different nature* from those of the *foregoing constitution*, which were *very rare in this season*. For 1, the pain in the head *here* was more violent. 2, *the vomitings more copious*, and the *looseness*, which was generally *prevented* in the *former fevers* by a vomit, was *increased thereby* in the *present fever*, and yet the *vomiting continued*. 3, the external parts were dry, as in the fevers of the *preceding* constitution; but after *bleeding*, especially, a *sweat was easily procured*, whereby the fever was *soon abated*, whereas in those fevers it could not be attempted with safety till the *thirteenth or fourteenth day*, nor indeed could it be easily raised. 4, the blood taken away in this fever resembled that of persons in pleuritic and rheumatic disorders, but was less sizy."—Thus far this accurate observer of nature. In this manner did the Plague first make its appearance; we shall by the above quotation readily perceive the reason of death coming on so suddenly in this complaint, as it was an acute disorder of the *highly sthenic diathesis*, running through the different stages of inflammation and mortification with the utmost rapidity, we shall by this view understand why the experienced Sydenham recommends the use of the lancet in this disease, and also learn to withhold our untimely censures on this part of his practice; it is hardly necessary to observe that he avoided bleeding if a swelling appeared. This practice of bleeding in the Plague is not singular, for it is still followed by more modern practitioners. "Dr. PATRICK RUSSELL,* formerly physician to the British factory at Aleppo, who speaks from experience and actual observation, in his treatise on this disease, as it occurred at that place, says with most of his patients a single bleeding was employed, and even where under his inspection it was used more than once, he did not find the low state hurried on thereby." It might possibly be asked, which way did the change to warm weather bring on fever? This question is easily answered. During the long continuation of cold weather the system must have acquired more or less of the *sthenic diathesis,* in this state of the body there is a sudden transition to warm weather; this, perhaps you will say, will not produce fever: 'tis true, but will it not lay open every pore? and excite such a degree of heat and thirst, that the unwary sufferer to

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* Swan's Sydenham.

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* Edinb. Pract. Phys. and Surg.

> ———'suage his pain,
> Seeks the syren-like refreshing breeze,
> Or draught of crystal stream.

but feels not the dreadful blow thus levelled at his existence, before 'tis, alas! too late.* From this history of the disease as it first appeared, we shall see there is no fair reason for attributing *the first production* of contagious fever to any infectious quality in the air, as hath been hitherto very generally maintained; but, however, when this universal disorder was produced, as above described, the air must then have been charged with a great portion of poisonous effluvia from persons in the disease, the hot weather of the summer still increasing, produced fresh instances of the complaint, rendered the present more certainly destructive, and encouraged putrefaction; thus it continued to destroy with the utmost fury, "sparing no order, age, or sex;" in this scene of universal terror and distress, physicians could afford but little relief, for in this barren state of the science they could not well define its nature, each pursued various and even opposite methods for its cure, but had not confidence in any. "It* was at length (September) that nothing might go untried, proposed to burn fires in the streets for three days together, yet while this was in debate, the physicians concerned were diffident of the success. It was, however, put into practice, and served only to aggravate the calamity, for more than four thousand people died on the third night;" before the three days were quite expired, *rain fell in great quantities; from this period* the Plague began to lessen. And here I would beg leave to throw out a hint which may be likely to stop the ravages of the Yellow Fever, or at least abate its violence. By the concurrent testimony of authors who have written on this fever, it is agreed, that excessive heat and want of rain for some months, do give rise to violent epidemic bilious disorders; that infection is increased by warm, and lessened by cold weather; that the symptoms are more or less violent according to the heat or coolness of the weather; that the disease is always more fatal in confined situations, not having the advantages of fresh air; that the following description of persons are more immediately marked out by this destructive disease, viz. the full athletic habit, and the valetudinarian; strangers who are natives of a colder climate, mulattoes and tawnies; that negroes are much less liable. It is readily occasioned in those hot countries by excessive drinking of strong spirits, violent exercise in the sun, and whatever chills suddenly, as drinking cold fluids when the body is warm, being exposed to cool air when in that state, or the chilling dews after the heat of the day; the body frequently feeling comfortable in these last circumstances, till the fatal disease suddenly makes its appearance. From all which, we may conclude, that if the temperature of the atmosphere could be somewhat reduced, the disease would not be so general, and whenever it did appear, it would be thereby rendered much more tractable. I would therefore recommend the following plan to be put into execution, as worth a trial, being a probable method of saving the lives of thousands of our fellow creatures, viz. to have the streets, &c. in hot weather kept constantly watered, by means of fire engines, and large machines constructed on purpose, watering pots, &c. during the heat of the day, at the public expence, where it is practicable. In houses or ships, somewhat after the same method may be followed, as by having the floors sprinkled occasionally with water or mopped; carpets should be removed, and painted sale cloths substituted in their stead. To return, "it* is particularly to be remembered, though Dr. HODGES hath omitted it in his account, that watermen and others, whose occasions employed them much upon the river, and in the cold, suffered least in the Plague." Hot weather continuing, (from the effect it has on the constitution) somewhat alters the appearance both in symptoms and continuance of disease, for Sydenham proceeds to observe, " these were the diag nostic signs (above enumerated) of this disease at its rise; but towards the middle of the year the Plague appeared, accompanied with several of its peculiar symptoms, as carbuncles, buboes, &c. and spreading more universally every day, came to its height about the autumnal equinox, at which time it destroyed near eight thousand persons in one week, though at least two thirds of the inhabitants had retired to the country to avoid the infection; afterwards it began to abate, and upon the coming of winter, was so far conquered, as to seize very few during that season, and the following spring." He observes, " that sudden death only happens in the *beginning* of a very fatal Plague, and *never in its decline.*" Here again, we see the operation of the hot weather on the general constitution, which wearing off the *inflammatory diathesis*, renders the action of the vascular system less violent, consequently the disease is not so rapid in its course—here, likewise, it will be obvious the treatment will differ again accordingly.—Thus I hope I have sufficiently shown the importance of studying the operation of the weather on our constitution, which, with the rest of the non-naturals and particular mode of living, constitute a science of great intricacy, as their various, opposite, and complicated powers, constantly operating on the system, keep the state of our bodies in perpetual fluctuation. Herein we see the difficulties of the art of physic; the physician, to become successful in the practice of his sacred profession, ought to be endowed with a most comprehensive genius, he should be feelingly alive to every the slightest change, yet cool, collected, and of firm, unbiassed judgment, to act with caution and certitude.—But hold! O, short-sighted man, seest thou not the finger of Omnipotence in the *disposal* of these causes and effects for thy preservation? and that had they been otherwise ordered, thou wouldst, ere now, have been rooted out from the face of the earth!

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* Somewhat after this manner is the Plague (as I apprehend) produced in Turkey, when the heat of the country makes it pleasant for the inhabitants to sleep in the open air, this, with their immoderate use of opium, and their indolent and unclean manner of living, must contribute to the production of fevers of the worst kind.

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* Hodges on the Plague.

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* Quincy on the different Causes of Pestilential Diseases.

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